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Copy 1 of 8

7 March 1963

MEMORANDUM FOR : The Record

SUBJECT : CXCART Engine Foreign Object Damage

1. There have been eleven instances of engine foreign object damage (FOD) involving the A-12 airplane. Six of these have been repaired in the field. Five have been major in nature requiring that the engine be returned to Hartford for repair. The latest damage was sustained during ground running in airplane #125 on 5 March 1963 after installation of protective inlet screens. Field reports indicate this damage to be minor and already repaired.

2. Engine teardown inspection findings of four of the five engines sustaining major damage indicate that the damage was caused by one or more small hard metallic objects. Impressions left inside three of these four engines indicate the objects to be cylindrical with diameters from 1/8 to 1/4 inches. In one of these latter three engines, the remains of a 1/4 inch diameter x 1/2 inch long bolt was found.

Teardown inspection of one of the five engines sustaining major damage indicates that the primary damage was caused by a relatively large nonmetallic but firm object of from 1 1/2 to 2 1/2 inches in diameter which broke down rapidly upon impact.

3. Eight of the total eleven engines damaged to date were installed in airplanes with not more than three hours flight time. Four of these eight occurred in airplanes prior to first flight. Attachment 1 summarizes this history.

SIGNED

Development Division
CSA-DD/R

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DD/OSA/ROD:rel
Distribution:

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Handle via

Control System

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Attachment 1

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Summary - Engine Foreign Object Damage - 7 March 1963

Instance	Engine Model	Engine Serial Number	Date FOD Discovered	Airplane No. Installation	Nozzle, Right or Left Hand	Extent of Damage	Airplane Flight Hours	Engine Disposition
1.	J-75	612096	6/14/62	121	RH	Major	11	Overhaul
2.	J-75	614163	10/5/62	123	LH	Major	0	Overhaul
3.	J-58	648203	Nov. 62	121	LH	Minor	44	*
4.	J-75	614164	1/3/63	123	LH	Minor	41	Field Repair
5.	J-58	648207	1/9/63	122	RH	Minor	1	Field Repair
6.	J-75	612072	1/16/63	124	RH	Major	3	Overhaul
7.	J-58	648211	1/29/63	122	RH	Major	1	Overhaul
8.	J-58	648212	2/8/63	122	RH	Major	2 1/2	Overhaul
9.	J-58	648204	2/13/63	125	RH	Borderline	0	Field Repair
10.	J-58	648210	2/13/63	125	LH	Borderline	0	Field Repair
11.	J-58	648204	3/5/63	125	RH	Minor	0	Field Repair

*This FOD discovered during routine overhaul. Date of last installed operation 9/14/62.

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